

**CLAIMS:**

1. An improved method for the hydroprocessing of a nitrogen-containing lube oil boiling range feedstream comprising:
  - a) providing a sulfuric acid solution having a sulfuric acid concentration of at least about 75 vol.%, based on the sulfuric acid solution;
  - b) contacting a nitrogen-containing lube oil boiling range feedstream with the sulfuric acid solution under conditions effective at removing at least about 60 wt.% of the nitrogen compounds contained in said lube oil boiling range feedstream, wherein the volumetric treat rate of the sulfuric acid solution is greater than about 0.5 vol.%, based on the lube oil boiling range feedstream thereby producing at least a mixture comprising a lube oil boiling range effluent and a used sulfuric acid solution; and
  - c) processing said lube oil boiling effluent by a process selected from solvent extraction, hydrodewaxing, hydrocracking, hydrotreating, hydrofinishing, and mixtures thereof thereby producing a lube oil boiling range product.
2. The method according to claim 1 wherein the nitrogen-containing lube oil boiling range feedstream has an initial boiling point of about 315° C.
3. The method according to any preceding claim wherein nitrogen-containing lube oil boiling range feedstream contains about 50% wax.

4. The method according to any preceding claim wherein the nitrogen-containing lube oil boiling range feedstream contains greater than about 100wppm nitrogen.
5. The method according to any preceding claim wherein the nitrogen present in said nitrogen-containing lube oil boiling range feedstream are basic and non-basic heterocyclic nitrogen compounds.
6. The method according to any preceding claim wherein said sulfuric acid solution is a spent sulfuric acid solution obtained from an alkylation process unit.
7. The method according to any preceding claim wherein the sulfuric acid solution and lube oil boiling range feedstream are contacted by a method selected from dispersive and non-dispersive contacting methods.
8. The method according to any preceding claim wherein said improved method further comprises separating said lube oil boiling range effluent and said used sulfuric acid solution by any means known to be effective at separating an acid from a hydrocarbon stream.
9. The method according to any preceding claim wherein the lube oil boiling range effluent and the used sulfuric acid solution are separated by a separation device selected from centrifuges, settling tanks or drums, coalescers, electrostatic precipitators, and other similar device.

10. The process according to any preceding claim wherein said alkylation process comprises:

- a) combining an olefinic hydrocarbon feedstream containing C<sub>4</sub> olefins with isobutane to form a hydrocarbonaceous mixture; and
- b) contacting the hydrocarbonaceous mixture with sulfuric acid under conditions effective for producing at least an alkylate and a sulfuric acid solution having an acid concentration of at least about 75 wt.%.

11. The process according to any preceding claim wherein a diluent is added to said sulfuric acid solution to adjust the sulfuric acid concentration of said sulfuric acid solution.

12. The method according to any preceding claim wherein said improved method further comprises contacting said lube oil boiling range effluent with an effective amount of an acid reducing material selected from caustic and water under conditions effective at reducing the total acid number of said lube oil boiling range effluent prior to step(c).

13. The method according to any preceding claim the lube oil boiling range effluent is hydrotreated to produce a hydrotreated lube oil boiling range effluent that is subsequently processed by a process selected from solvent dewaxing, solvent extraction, hydrodewaxing, hydrocracking, hydrofinishing, and mixtures thereof thereby producing a lube oil boiling range product.